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(54) Title: A NOVEL ANGIOGENESIS INHIBITOR

(57) Abstract: The present invention provides a novel angiogenesis inhibitor, LK68 whose amino acid sequence is identical with the human apolipoprotein (a) kringle domains IV36, IV37 and V38, a cDNA sequence encoding the LK68, a recombinant expression vector comprising the cDNA, a recombinant microorganism transformed with the recombinant expression vector and a novel use of the LK68 as an anticancer agent and a method for treating angiogenesis-mediated disease. LK68, LK6, LK7 and LK8 exhibit inhibitory activities on the cultured endothelial cell proliferation as well as on the endothelial cell migration. LK68 and its single kringle also inhibit the normal development of capillaries in the chick embryo chorioallantoic membrane (CAM). It was also showed that systemic administration of LK68 causes the inhibition of primary tumor growth, which is correlated with a suppression of tumor-induced angiogenesis. Accordingly, LK68 protein, its single kringle or their functional equivalents may be applied for the development of a potent anti-cancer agent, which is highly effective for angiogenesis-mediated diseases covering cancer, rheumatoid arthritis, psoriasis, ocular angiogenic disease, etc.